

EXHIBIT 2

Expert Witness Report

Pond5 & Gordon Hempton/Quiet Planet Case

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Executive Summary

User ckennedy342's submission is immediately suspicious to anyone with reasonable experience with sound libraries for the following reasons:

Metadata & Spreadsheet Information

The text information indicates these irregularities:

- The quantity of sound files submitted is highly unusual for any sound fx library.
- The quantity of sound files submitted is highly unusual for an unknown individual in particular.
- The differing naming scheme of the submitted clips suggest they originate from distinct sound libraries.
- The naming scheme for some sounds (e.g., using "title case" naming) is an unusual naming method used by a small amount of publishers.
- The naming scheme for some clips suggest the tracks are taken from an established sound library (e.g., "QP" appearing in the name).
- The range of sound file files submitted by ckennedy342 is unusual (e.g., ocean sounds and impact sounds). It is not typical for a sound library to include such varied categories of recordings.

Audio Content

Listening to the sounds themselves indicates these irregularities:

- The audio content of the Quiet Planet tracks are captured with the binaural recording technique. There are under five sound publishers that publish sound libraries recorded in this format with the quality of the tracks submitted by ckennedy342.
- The Quiet Planet clips are produced at an extremely high level of skill uncommon to the majority of sound libraries.

Curatorial Review

Furthermore, the distributor behaved in a manner atypical to industry standards:

- Pond5 did not perform a typical curatorial review to industry standards. Based on the irregularities above, they either were aware of the irregularities and allowed the sounds to be published anyway, or did not perform proper "due-diligence" ingestion as expected by industry standards.
- Pond5 was neglectful for not examining the submission in detail during their ingestion method, whether ingestion was performed by the publisher or the distributor.
- Pond5 rejected the submission twice but allowed it a third time even with additional identifying evidence (e.g., a matching PayPal address), indicating negligence during the curatorial review.

Witness Information

The witness is Paul Virostek, an expert on field recording, sound effects mastering, and sound library curation.

Qualifications

Biography

Paul Virostek is a field recordist and career sound librarian who has been capturing sound effects beyond the studio since 1997. His work has appeared in major feature films such as Batman Begins, Glory Road, Ali, and others, as has contributed to projects for the world's largest stock sound fx library, Sound Ideas.

He has worked with sound effects libraries since 1999, including working as Vice President of Production at the first online sound fx library, Sounddogs.com. He has consulted for the planet's most prominent sound clip collection Web shops, such as Soundsnap.com, Shockwave Sound, and others. Virostek launched his own online sound library at www.airbornesound.com in 2006.

Paul has performed extensive sound fx library curation for his clients. He has ingested over a half million clips onto his clients' websites. His ingestion work has included evaluating sound fx libraries submitted by sound library publishers and reviewing audio content for distribution. Additionally, Virostek has reviewed, modified, and added descriptive text and metadata for these clients to facilitate keyword searches for his clients' Website users. He has performed extensive metadata work on both music and sound fx collections, enhancing sound clip libraries with both open and proprietary metadata standards.

Through his work with these clients and his own collection of over 27,000 clips, Virostek has detailed an extensive metadata workflow in a variety of industry-standard formats. In addition, Paul has shared his knowledge of metadata, sound fx libraries, and audio curation in three published books, as well as to over 2,000 weekly readers at his sound fx news site, www.creativefieldrecording.com.

Virostek also has experience with watermarking content identification technologies. He worked at Deluxe/Technicolor creating watermarked DVD screeners for the Academy of Motion Picture Sciences members for Academy Award considerations.

Publications, Media, and Press

The witness has published the following books in the previous 10 years:

- Field Recording: From Research to Wrap.
- Selling Creative Sound.
- Sharing Sound Online.

Paul Virostek has written over 275 articles on www.creativefieldrecording.com relating to the subject of field recording, sound libraries, and metadata.

The witness has also been a featured expert guest on industry podcasts such as the A Sound Effect Podcast, and the Tonebenders podcast.

The witness has been interviewed by a variety of industry websites, such as The Audio Spotlight news website, Animation World Network, and the A Sound Effect blog. His work has been featured in articles on industry-leading online news sites Designing Sound and Sonic Terrain (now Sonic Field).

Previous Cases as Expert Witness

The witness has no previous experience testifying as an expert at trial or by deposition in the past four years.

Statement of Compensation

The witness will be paid compensation of \$200 per hour for the study, and \$250 per hour for deposition and testimony in the case.

Metadata Overview

This section is intended as an introduction to metadata used in sound effects libraries.

Generic Metadata

In its most simplest format, metadata is information beyond the contents of the core media itself. For example, a sound file consists primarily of audio. The most basic metadata share additional information about the media. This may include the file name, its creation date, and so on. This generic metadata is common to most digital files.

Sound Effects Metadata

By contrast, sound effects metadata builds upon generic metadata with additional, elaborate, focused information applicable to sound effects themselves. It is designed to help audio professionals in post-production, game audio, and other industries. This report will primarily consider this type of metadata, and refer to it simply as “metadata” from this point forward.

Sound effects metadata is text information that describes a sound clip. It uses words and letters (as opposed to sound) to explain a sound effect using a number of different “fields,” such as Description, Category, Location, Microphone, and others. Sound effects metadata may also include images, although this is more rare. Album covers or photographs of field recording locations are examples.

The information in these fields is sometimes called “tags.”

The Purpose of Sound FX Metadata

The goal of sound fx metadata is to express the sonic aspects of sound clips as fully as possible using text. This makes it possible to describe the sound clip with more detail than the audio alone. Text is used because it is easier to consume than audio. For example, reading a text description of a thunderstorm in a few seconds allows the sound to be understood more quickly than listening to a three-minute-long sound file.

This text creates valuable search terms or keywords that help sound pros find the clip later, often from amongst thousands of other similar clips. The bonus text data in metadata helps audio professionals find the the perfect sound quickly and return to work. It also helps them audition and organize tracks. This becomes especially important as an audio pro’s collection grows and they need to find one precise sound amongst tens of thousands. Metadata provides detailed information about a sound that helps the pro find a clip and decide upon it quickly.

For sound library creators, metadata adds value to a collection and increases its salability and appeal. Metadata may also be used to indicate ownership of the sound clips. Some sound libraries will write copyright text in a metadata field and embed that into their sound clips. For example, “© 2016 by Quiet Planet. All Rights Reserved.” may appear. This is not common, however.

The Role of Metadata in the Sound FX Industry

In my opinion, metadata has become more important to the sound effects industry, especially in the last 2-3 years or so. In recent years sound pros have begun to demand that sound libraries have metadata. When I submit my sound libraries to distributors, they now ask that metadata be included.

Metadata’s importance to a website depends on its customers. A sound sharing website with professional customers (e.g., Sounddogs, Soundsnap) of feature film editors or game audio designers are more likely to want and use metadata. This is because their customers can afford metadata app software, and have large libraries that they need to search regularly.

Metadata will have less importance if a website’s customers are casual sound users. An example would be customers that get one or two sounds for a family video, a school project, and so on. These customers do not use many sounds, and cannot afford the metadata app sound browsing software. Since it has little benefit to their customers these sites will likely not use it or even know of metadata.

Invisible Metadata

Sound effects metadata is joined to the sound file itself. In fact, anyone may see and listen to a metadata-embedded WAV file in computer operating system without ever knowing there is metadata attached to the sound. The audio can be heard and enjoyed regardless. So, metadata is invisible in the sense that one cannot hear it or see it.

The bonus text metadata is only revealed when viewed through a **sound fx browser** or **metadata app** or **asset management software** (see below).

So, pro sound effects metadata is not automatically seen by everyone that accesses a sound clip file. In most cases, a specialized metadata app is required to see the information. So, if metadata is written to a sound effect via a metadata app, there is no guarantee the text will be seen by Windows or MacOS, or in the iTunes music jukebox software. Most of the time a specialized app is needed to detect it and view the bonus information.

Storing Metadata

Metadata is stored within the audio file itself. However, it cannot be heard. It will not interfere with the audio whatsoever.

This is because the metadata is not saved within the audio portion of a sound file. Instead, it is saved to a sound file's **header**. This is a tiny bit of data that is located before the audio begins. This header guides the sound, but isn't part of the audio, much in the same way a book's table of contents describes a novel, but isn't part of the story.

Within this header are smaller portions called **chunks**. Each chunk stores info for a different flavour of metadata. There are many types of metadata. Examples are BWA V BEXT, ID3, iXML, and others (see below). Each of these formats will have their own chunk residing with the others in the sound file header.

Together these chunks surround the sound effect like an invisible wrapper around a candy. In other words, the metadata becomes attached to the sound effect, but doesn't change its audio contents inherently.

Writing Metadata

Metadata is written to a sound file using specialized metadata apps. The app will write all new text changes to the file. It will save them to the chunk in the sound file's header. The app may write metadata as soon as text is entered in the app. Other apps require the text to be manually saved with a key command or a menu selection.

Whichever the case, this commits the text to the file itself. So, if the file is copied, or sent to someone else, the metadata will travel with it. This is a major benefit of sound fx metadata: it allows the bonus text to be shared with others. This is particularly helpful to sound library creators. It provides all the rich information to sound library customers to help them find sound fx quickly and accurately.

Writing metadata to a sound file is often called **embedding, burning, wrapping, or injecting** metadata.

Industry-leading metadata apps include Basehead, Soundminer, and Soundly.

Removing or Retaining Metadata

Note that certain specific actions may remove metadata from a sound file. This may include opening and re-saving a sound file and adding or removing audio to an existing sound file and re-saving it afterwards. In short, whether the metadata is preserved depends on the application accessing the file and the action it is performing.

Examples of situations where a metadata-embedded sound loses its metadata:

- Shortening or lengthen a sound, then re-saving it.
- Performing a sample rate conversion (e.g. 96 kHz to 48 kHz).
- Performing a channel conversion (mono to stereo, etc).
- Performing a file type conversion (WAV to MP3 file).

Situations where a sound retains metadata:

- Performing any of the above, but within a specific metadata app that specifically intends to retain the metadata.
- Copying a metadata-embedded file on a Mac laptop from one location to another without any fundamental change to its contents.

A loose analogy of this removing metadata would be photocopying a document with a watermark embedded within the texture of the paper. The photocopy will have the information printed on the copied sheet, but not carry the watermark within the paper itself.

To use a specific example: software company Audio Ease offers a popular sound file conversion app called BarbaBatch. It allows sound files to convert sample rates, file types, and so on. Converting a file using this app always loses the metadata. So, it can convert a source 96 kHz/24-bit original WAV sound file with metadata to another or even the same format, and the resulting file will have no metadata at all. Barbabatch does not do this intentionally. It just does not accommodate for retaining the metadata information.

Metadata may disappear in two scenarios: a user did not want it there and it was removed deliberately (similar to a word processor's find and replace function), or it was accidentally removed while the file was being processed in some way.

For example, it is efficient for online libraries to store their sound files in a standard file type and format. If a sound library is submitted in a different format, the online website would convert it to match whatever their website sells. This process may remove the metadata.

An example: the source files were submitted as 96 kHz WAV files. The online library delivers sounds to customers at 48 kHz AIFF files. When a user uploads the source files, the files will be converted to the proper format. This conversion can happen locally (e.g., on a website administrator's laptop) or on the website server itself. In either case, in the vast majority of cases, the metadata will be lost.

Types of Metadata

There are a handful of metadata formats and approaches. Generally, there are two classifications of metadata:

Open vs. Closed Metadata Formats

- **Open metadata formats.** This is a format that any app creator can edit, save to, and view. A simple example is the ID3 format used by MP3s.
- **Closed metadata formats.** This type of metadata is created by one special metadata app. It may also be called a "proprietary format." The text information will be encrypted. That means no other app can access it. Only the original app can create this proprietary metadata, edit it, and save it.

Proprietary formats are often sophisticated and powerful. The theory is that they limit access to provide a reliable metadata standard and to protect their investment creating their metadata app. Soundminer's native Metawrapper metadata format is an example.

Fixed vs. Open Metadata Specifications

When metadata first was applied to sound files, hardware manufacturers and software apps couldn't agree on what fields to include, or what should be stored in them. The result was confusion with incompatible fields and data. Metadata applied by one app couldn't be shared with another.

Eventually, metadata standards evolved that everyone using the format were forced to adopt.

- **Fixed metadata specification.** This metadata style has rigid field names. They cannot be altered. What's more, they may only store one type of information in them, say, either text or numbers, or a date. For example, BWAFF has fields such as:

- Description (text, 256 characters).
- Originator (text, 32 characters).
- OriginatorDate (date, YYYY-MM-DD)

There are other fields. However, to save data to a BWAFF file, it must be added to an existing field in the way it expects. This is done to create a reliable standard that will work across a variety of apps or hardware. So, it's not possible for a metadata app to create a new BWAFF field called "Field Recordist" and write the recordist's name to the field. If an app wants to use the BWAFF **specification** or **spec**, it must play by the rules and use only the existing fields as described by its specification.

- **Extensible metadata specification.** Some metadata formats allow apps to tack on extra fields. This allows the app to use all the rigid, fixed, existing fields and add on whatever bonus fields they desire.

For example, iXML can use fields such as Project, Scene, and Tape. However, it also allows an app to build upon this. So, it can include those fields, and then add a field called "Field Recordist" for the example of recordist's name, above.

This allows the format to be extended, which is why it is referred to as an **extensible format**. This allows a metadata app to create flexible field types and names and expand upon established metadata formats. However, since the new fields are beyond the rigid, original field names, there's no guarantee any other app will see them. However, it's a popular option to extend the power of a metadata format when the information will be used only within one metadata app.

Metadata Formats

The following are common metadata formats used by the most popular audio metadata apps. Note: this list is not exhaustive.

- **BWAFF.** The Broadcast WAV standard is the most common metadata format for sound pros. It writes metadata to a BEXT chunk.
- **iXML.** The iXML metadata format was designed by a group of manufacturers to create a new standard of metadata to work with BWAFF files.
- **XMP.** The Extensible Metadata Platform was developed by Adobe to add metadata to all audio and video file types. It builds upon the iXML format.

- **Soundminer Metawrapper.** This format writes to a proprietary metadata flavour that includes fields specifically designed for post-production sound pros such as Microphone, Category, Subcategory, and so on.
- **ID3v2.** The ID3 metadata consumer format is typically associated with MP3 files. ID3 may also augment WAV files and AIFF files.
- **MP4.** The MP4/M4A audio and video format evolved from Apple's QuickTime standard. It has its own metadata version. As a bonus, XMP metadata can join it as well.
- **Vorbis.** The Vorbis comment metadata format was designed to be used with Vorbis, FLAC, Speex, and Opus audio file formats in a manner similar to the ID3 spec.
- **LIST-INFO.** This format was the original metadata specification for WAV files, created in 1991. It is still supported by apps today.

Example of a Metadata File

MP3s are a common consumer format supported by Windows and MacOS, as well as hundreds of hardware manufacturers.

The primary content of the MP3 is the music itself. The file also includes other, non-audio data as well. This metadata includes album artist, album name, cover album art, date published, songwriters, and so on. All programs and stereos that read MP3s use the same format which includes standardized fields they all agree upon: album, album artist, cover art, and so on.

This information helps users sort and choose their music. Without such metadata, a user with thousands of songs would not know the song or the album, making it difficult to enjoy their music collections.

This metadata is not part of the audio. It cannot be heard. Instead, it is stored as data in a small part of the file "preceding" the sound.

The metadata is typically not seen when examining the MP3 file alone. The audio file must be added to software such as the iTunes music jukebox software to be able to read every field of metadata available.

The metadata in the MP3 file cannot be modified without specialized software. For example, the iTunes music software is able to update songs with fresh cover art, add songwriters, and so on. When this information is added, it joins with the MP3 file and travels with it when it is moved elsewhere. In this manner, the metadata can be seen in both a PC computer, and a car's stereo.

(Please note that the MP3 format is so popular that some operating systems are able to read MP3's metadata without additional software. Professional metadata is different in this regard.)

To summarize:

- The MP3 file itself is audio content.
- It contains additional text and image information metadata.
- This metadata helps users understand the audio file and use it more easily.
- The metadata is stored in a portion of the file apart from the audio itself.

- This information is typically not able to be seen or read without additional, specialized software.
- This specialized software is required to modify the metadata.
- Metadata becomes attached to a file and cannot be separated from it.
- Metadata can be separated from an audio file if the contents of the audio is modified in some way.

Overview of Sound Library Ingestion

Sound library **ingestion** is the process of preparing, submitting, and integrating sound files into an e-commerce website. It is a process required to add raw sound files to a website so customers can view and purchase the sound effects.

Each sound effect website is built with unique code. As such, the ingestion process will vary. However, the broad categories of the process remain the same. For example, I have ingested files for the following, industry-leading websites: sounddogs.com, soundsnap.com, shockwave-sound.com, 1soundfx.com, and sound-effect.com (now freesoundeffects.com). These websites follow similar ingestion methods.

There are two broad methods of ingestion: publisher ingestion and distributor ingestion.

Publisher Ingestion

This method requires the owner of the sound effects to perform the majority of the ingestion work. The methodology is as follows:

1. User applies to become a publisher.
2. User is approved by the distributor, and distribution agreements are signed. The approval and signing process may be automated with a Web form.
3. User receives login credentials.
4. User uploads a sound effect to the website through a private website interface, usually via a series of strict Web page forms.
5. User adds curatorial information: description, categories, and so forth through additional Web page forms.
6. User submits sound effect for review.
7. Distributor reviews the submission. During this process, the distributor assesses whether the sound files are suitable for publication. Criteria for evaluation includes copyright infringement, quality, rarity, popularity, and so on.
8. Distributor prepares tracks for publication, including creating sound file previews, and so on.
9. Distributor publishes submission and makes it live on its website, available for purchase.

Publisher ingestion is used for a number of reasons:

- The publisher performs the ingestion. This offloads labour from the website. It also ensures accuracy when entering subjective metadata, since it assumes the publisher is familiar with the sounds and is more able to provide this info.
- It provides accuracy. The Web page forms are typically conditional. For example, the ingestion process will be halted if a publisher does not provide proper descriptive information, skips a field, and so on. So, ingesting sound fx via Web page forms reduces errors.
- It is ideal for low-quantity submissions. Ingesting a sound file manually by distributor staff takes a lot of time. A distributor performing ingestion on low-quantity libraries may actually lose money if they perform the ingestion, since sales may not cover the cost of labour involved in the ingestion process.

Distributor Ingestion

In this process, the distributor typically performs the majority of the ingestion work. The process is:

1. User applies to become a publisher.
2. User is approved by the distributor, and distribution agreements are signed. This is typically done manually through email contact, etc.
3. User sends distributor the sound files. This may take the form of uploading to an FTP server, a cloud storage website, sending a physical hard drive to a user, and so on. This process is typically manual (i.e., not via a Web form).
4. The distributor reviews the submission. During this process, the distributor assesses whether the sound files are suitable for publication. Criteria evaluation includes copyright infringement, quality, rarity, popularity, and so on.
5. The distributor conforms the sound files to their Web server standards. This may include changing file formats, copying files to Web servers, renaming, and so.
6. The distributor ingests the files into the website databases. Depending on the quality of the publisher's submission, this may involve renaming sounds, adding keywords, and categorizing sound files. This is a long, tedious process. As such, distributors request metadata or Excel spreadsheets with additional information. This additional information makes the ingestion process more efficient, especially for larger libraries. As such, it is typical to request metadata for sound files submitted in this manner.
7. Distributor prepares tracks for publication, including creating sound file previews, and so on.
8. Distributor publishes submission and makes it live on its website, available for purchase.

Distributor ingestion is used for the following reasons:

- It is more efficient for large sound file libraries. Ingesting files individually with rich data takes a large amount of time. Distributor ingestion gives the website the opportunity to ingest the sounds in large batches, which is more efficient.
- Control. Sound libraries are often submitted in formats that are not compatible to websites. As such, distributor ingestion allows the website to format both text and audio to their standards quickly and efficiently.
- Quality. Publisher ingestion often introduces errors in objective data during the ingestion process. For example, new publishers may not be aware of website standards, proper categorization and so on. Distributor ingestion allows website staff to oversee the ingestion process and ensure the sound files are presented to customers in the most ideal way.

Ingestion Evaluation

As mentioned previously, distributors typically vet publishers and their sound effects before making the clips available for publication and purchase by customers. I have both ingested sound libraries onto clients' websites, and have also had my own sound library ingested onto

other sites. While the process varies, generally speaking, the considerations for publication and the vetting process are similar. The vetting process usually takes two stages:

1. Evaluating the publisher.
2. Evaluating the content.

Publisher Evaluation

Publishers are evaluated for markability. For example, a distributor may be interested in leveraging a publisher's film or game audio credits to increase the prestige of the website. Please note that sites using the Publisher Ingestion may have this method mostly automated. This is common for small sound library submissions. However, larger submissions are typically handled with the Distributor Ingestion method. In these situations, email or phone interaction is common. A distributor may also research the publisher on websites such as LinkedIn and IMDb. It is also typical to visit a publisher's native website to view their portfolio and so on.

Content Evaluation

After the publisher is accepted as a partner on a website, the distributor begins to examine the sound files themselves. In many cases the publisher forwards a spreadsheet list of the sound files they wish to submit. In some cases the distributor requests samples of the sound library, which are typically sent as MP3s. These files are smaller-sized copies of the full-resolution library. Sending MP3s is a common method to allow distributors to evaluate the sound while allowing the publisher to retain the full resolution copies before an agreement is completed.

Distributors evaluate sound based on two broad criteria:

1. Content (salability, rarity, fidelity, creativity, popularity).
2. Copyright violation.

Salability is largely a subjective decision; some distributors seek certain sound clips to align with their goals and their customers' needs.

Copyright violation is objective. Currently, there is no widely available technology that automatically detects sound effects copyright evaluation. The music industry has tools that search the web and broadcast programming for music. This method is called "audio watermarking" (such as <https://www.audiblemagic.com/broadcast-monitoring/>) however this is not widely used for sound effects at present.

Because of this, distributor must perform manual copyright evaluation. Please note that there are millions of sound clips available on the market. As such, it is impossible to know every sound effect on the market and whether a submission is violating copyright. It is especially difficult to identify copyright violation by audio alone. The method I used when ingesting was to search the Web and sound effect databases using unusual keywords from sound library submissions. Examples are Google, or prominent aggregated sound effect websites such as sounddogs.com, audiosparx.com, or youtube.com. A typical search would be: "sound effect name" sound effect, or "black rhino sound effect".

For example, in a submission of 10,000 records, I would review every 250th clip and search the Web for a match. This task is easier when searching for rare keywords. For example, reasonable experience with sound clip libraries would identify sounds such as rhinos, cheetahs, race cars, and tanks as rare sound effects, since they are more difficult to find and technically challenging to capture. Using these keywords for Web searches is a relatively easy method of finding matches and thereby determining copyright violation.

For example, a library submission includes a black rhino sound clip. Searching the Web, trade websites, and Google will more likely return results of similar black rhino clips, as opposed to searching for a door sound clip. At that point, search results can be auditioned and compared to the submitted material to evaluate duplication. It is possible that the publisher may have submitted the same clip elsewhere on the Web. However, this provides the ability to find match clips and evaluate if the publisher found in the search result differs from the library submission. A match would strongly correlate with copyright violation. The more rare the clip, the easier it is to find copyright violation.

Exhibits

This report considers the following data:

Files and Spreadsheets

- 2016.08.02 metadata PON 000539 (00138847) GH.xlsx
- All ckennedy342 files uploaded to P5.xlsx
- QP download at P5 revised for tabulating sales v2 GH.xlsx
- ckennedy342 file Soundminer metadata export.txt
- 655 ckennedy342 files Master
 - _All matched pairs sorted by ckennedy342 filenames.pdf
 - _All matched pairs sorted by Hempton filenames.pdf
 - _Only Sold Matched Pairs of ckennedy342 and Hempton filenames.pdf
- Dathrex files
 - Dathrex screen shot of offering.jpg
- PON 000210 - 228 - Exchange between Hassan alterego WildAudioProductions and Pond5 - terminating acct in 5 2014 for fraud.pdf
- PON 000294 - spreadsheet from Cray about ckennedys downloads and P5 revenue.xlsx
- CKennedy Files Compared.xlsx

Audio Files

- "ckennedy342 files Master" (655 files). These files Quiet Planet files uploaded by ckennedy.
- "Dathrex files" (2 MP3 files)
- "Hempton Sample of all CKennedy Sound Files" files (100 sounds). These are a sample of 100 files across the 10,000 file library that ckennedy uploaded.
- "HassanKahn" files (100 sounds)
- "Wild Audio Productions" files: folder 1 (8916 sounds), folder 2 (3352 sounds). These are uploads by the same person as the ckennedy identity, which were rejected by Pond5

Please note: this report is awaiting additional information and the report may be supplemented should additional information be produced.

Summary of Observation of Exhibits

This report will examine the exhibits in three categories: the sound files themselves, the spreadsheets of data, and the curatorial ingestion review.

Please note that to draw more conclusions, I will require more data from Pond5. This includes the spreadsheet with the Title column completed, as well as all information presented on the “front end” to customers relating to each file uploaded by ckennedy.

As such, the following observations are drawn from the exhibits provided to me at the time.

Sound Files

The sound files in the “655 ckennedy342 files Master” folder were examined using two methods: audio examination, and metadata information.

The audio content of the sound files is particularly notable in terms of the audio quality, the contents of the audio itself, and the status of the metadata.

Audio Content

Mastering Technique

Raw sound effect field recordings typically include a number of incidental flaws. These flaws commonly become part of field recordings when they are captured in difficult environments outdoors. A sample of these errors may include:

- Recordist voices speaking or identifying the recording (also known as **slating**).
- Microphone bumps.
- Wind blowing across the microphone.
- Recordist movement or handling noise.
- Environmental interference (such as a plane overlapping a recording of waves).

The list is not exhaustive. Please note these flaws are common to every recording. A sound professional must remove these flaws to prepare them for publication. This process is known as **mastering**.

Mastering is a long, tedious process that requires excellent hearing and precise editing skills. As such, many inexperienced sound library publishers fail to notice and remove many of these issues.

The files in the exhibit are mastered at the highest level of skill in the industry. Every error is removed, and the files are presented in a professional and user friendly way. They are presented professionally (specifically in terms of audio production) with head and tail fades, and so on. They have lack “problem sounds” overlapping the principle audio content. In my experience, such mastering quality is not common, indicating that the sounds were produced by someone with exceptional skill.

Moreover, mastering and preparation techniques for sound files is not identical for every sound effect library. For example, some sound libraries may add long fades to the beginning and end of a sound file. Others may not. Whichever the case, a sound library typically adopts one particular pattern throughout all of its releases. In other words, examining the mastering approach of a sound library is a way to identify its publisher.

The exhibits provide a cross-section of the sound effects uploaded by ckennedy342. In examining the 100 sound files, it is clear that the mastering technique varies considerably. For example, the ambience or atmosphere sound effects have unusual differences. Some tracks are captured in stereo, such as the Quiet Planet tracks. However, other ambiences are mono field recordings with low fidelity (e.g., "041507317-food-court.wav"). Ambiences are overwhelmingly produced as stereo recordings throughout the industry, as they are intended to create a sense of space and depth, which mono recordings do not provide. It is atypical for a publisher to produce mono ambience recordings at all, and even more strange for a sound library to provide both mono and stereo atmospheres together. This unusual mastering technique strongly points towards the sound effects originating from separate publishers.

Furthermore, the short, "specific" sound fx vary. Many of the sound fx are mastered incompletely, or have errors. Some of them are "over-modded" and lack headroom common from contemporary professional publishers (e.g., "041382660-berreta-m9-pistol-single-shot.wav"). Others appear to be distorted or clipped (e.g., "044787671-ak-74-trigger-ir.wav"). Additionally, some specific sound effects lack long fade outs, and are truncated prematurely (e.g., "044788251-fal-5062-burst-distant-1.wav"). This contrasts with the high quality of the production elements (e.g., "045947904-slam-low.wav", "045952376-golden-swoosh.wav"). It is unusual for a submitted sound library to vary in mastering technique so widely. This strongly suggests the sound clips originate from a variety of publishers, and is not the work of one individual.

Audio Content

The content of the sound files in the folder is also notable. Upon listening to the sounds, a trained ear discovers that sound files are **binaural** sound recordings. Binaural recordings are particularly evident from other recording methods in that when the recordings are observed through headphones, the audio events in the recording are located very accurately. They also move throughout the sound field in a way that mimics conventional hearing uncommon with any other field recording technique.

This is significant for a few reasons. First, the ability to record high-quality binaural recordings is not common. The reason is that most binaural microphones available to field recordists are not high quality. They capture binaural audio at a lower fidelity and often produce hiss in recordings, especially in quiet natural environments. To capture binaural recordings with high quality requires an expensive binaural microphone. The only example I am aware of are the microphones created by Neumann: models KU 100 and KU 81i. These microphones produce exceptional field recordings such as the ones heard in the exhibit. These microphones are extremely rare. Part of this is due to their cost (around \$8000). Also, older versions of this microphone (KU 81i) are no longer produced. I know of only two field recordists that capture field recordings with this microphone for sound libraries, one of which is Mr. Hempton. So, to hear such sounds recorded by an unknown individual would be highly unlikely.

Also, releasing sound effects libraries in the binaural audio format is not common. Quiet Planet is one of only two sound libraries I know of that releases sound effects in the binaural format.

Sound File Metadata

I scanned all sound files in the Soundminer metadata app. This app is able to detect Metawrapper and BWAV metadata. No metadata was evident in the sound effect files.

It is possible that metadata can be lost at some point during a sound file's lifespan. Metadata can be lost when an app performs a change upon the files, as noted in Metadata Overview, above.

More detailed knowledge about Pond5's specific upload process would be required to know if it strips metadata from files. If the upload process involves transforming a file in any way (such as sample rate conversion, file type conversion, or re-saving it), it is highly likely that the process would strip embedded metadata. Each online library's technology handles content ingestion differently, so it is difficult to speculate why or how Quiet Planet's metadata has been removed.

Spreadsheets

The spreadsheet "2016.08.02 metadata PON 000539 (00138847) GH" list all files uploaded to Pond5 by user ckennedy342.

Statistical Information

The spreadsheet lists common ingestion data. The first category is hard, objective information of the sound files, such as:

- Sampling rate (column S).
- Bit depth (column N).
- Channels (column R).
- Duration (column B).
- File size (column J).
- File type (column K).

Date Information

The spreadsheet also includes date information in columns E, F, and G. The columns E and F ("Access date" and "Change date") match and range from 2016 07 26, 22:58 to 2016 07 26, 23:04. They differ from G ("File modify date") and range from 2014 08 26, 20:44 to 2015 06 08, 07:12.

I assume that E and F are the original ingestion date when the sound files were added to Pond5's Web server. However, it is impossible to know without further information about Pond5 ingestion method.

The fact that columns F and G are different seem to indicate that the file has been changed in some way. It's difficult to know what this change would be. It could range from a simple file name change, to a sample rate change, or a file type change.

The fact that F and G are different, and that the encoding for every file in column Q is "Microsoft" could indicate a batch file conversion, which could strip metadata, either inadvertently or intentionally. However it's inconclusive with the information in the spreadsheet.

It is difficult to draw conclusions about the difference in the date without knowing more about Pond5's ingestion process. The "change date" merely indicates that the file was modified in some way. This could be a copying, duplication, renaming, or so on. It does not necessarily indicate that metadata has been modified, for example.

File Name Information

The majority of the spreadsheet actually provides little useful information. This is because the file names are numbers (e.g., 044313569.wav), which anonymizes them. Typically, this name will not be presented to website users. Instead, a full name describing the sound file contents will be presented instead (see "Title Information," below). The numbered files are not inherently unusual since it may simply be an efficient way to store or access sounds.

All this information is relatively clinical and does not indicate much information about ownership or the contents of the files.

Title Information

The exception is column is U, "Title". It provides an English-readable description of the contents of the file. Note that the majority of entries do not have data in this column. A full comparative analysis would require this entire column to be populated.

However, rows 9787 to 10243 do contain data. The information here is particularly significant. The data can be grouped into two different sets: rows 9787 - 9897 ("batch 1"), and rows 9898 - 10243 ("batch 2").

Naming Prefix

The nine-character prefix for each row (e.g., "QP05 0458") is notable. Many sound fx files are typically prefixed by SKU or catalog numbers to identify the publisher, the album release, organize the files, and so on. The designation is typically an abbreviation of the publisher name, the album, and an ordering system. In this case, "QP05" is immediately apparent as originating from the publisher Quiet Planet; no other publishers with similar designations exist. The "QP" designation is distinctive throughout the industry, and would immediately suggest "Quiet Planet" to anyone with a reasonable knowledge of sound effects libraries.

Naming Style

The vast majority of sound libraries are poorly organized and named. A large portion of my consulting work was making these libraries presentable for consumers. The vast majority

needed extensive renaming work. This offered me the opportunity to see how sound libraries are organized, named, and presented. As mentioned above, a sound publisher will typically adopt the same mastering and curatorial system throughout all their files.

The naming system in batch 1 is particularly notable in that the names in the second batch lack the prefix. Additionally, unlike the batch 1 files, spaces are replaced with underscores, and every word is capitalized. The fact that the naming style differs is unusual, and would prompt additional investigation. From the names alone, I would assume that the files are from two distinct publishers.

Additionally, batch 2's underscore-and-capitalization naming method is a highly-specialized naming technique. The majority of sound libraries submitted have a far more basic naming system. Few sound libraries adopt that specific naming scheme. It is not impossible for a new library to adopt this naming technique, however it is unusual not only in its difference from the naming scheme mentioned above, but also in its rarity.

Content Description

Furthermore, the contents of the data is recognizable. It describes surf sound files. While wave recordings are not particularly rare, the extensive variety of them is notable. This, combined with the QP designation above, would lead a reasonable person to attributable the collection to Quiet Planet, one of the most predominant nature libraries worldwide.

Also, the audio content of the sounds in batch 1 and batch 2 is unusual in that the contents are different. Batch 1 describes nature recordings. Batch 2 describes "production elements" such as whooshes and other sound design elements. These two types of sound recordings are different. Producing nature recordings and production elements require a completely different skill set. Nature recordings require travelling outside of a studio environment to gather sounds. Production elements are largely designed within a computer in a studio environment. As such, the contents described in the entries is vastly different.

It is highly unusual to see both types of sound effects in one library; usually a sound publisher specializes in one type of sound effects. Usually field recordists or sound designers specialize in one subject (e.g., sound design whooshes, nature sounds, vehicles, etc.). They are typically excellent at one type of sound effect and produce that most of the time. So, to see wave sounds mixed with production elements (e.g., risers, stingers, whooshes) is not typical. These files are captured and produced with radically different methods.

Quantity

Finally, the size of ckennedy342's submission is notable. The submission includes over 10,000 sound effect files. The time required to create such a large sound collection would take years. This is not a submission that an anonymous, new sound recordist would produce. I am aware of under 10 privately-owned sound libraries that exceed 10,000 sound files. In other words, anyone with reasonable experience working with sound libraries would find a submission of such a large collection unusual. A collection of this size would typically be already known by the community, or submitted first on other websites that are more prominent or popular than Pond5. Further, every collection of that size that I have encountered has submitted their collection with

significant branding. So, a collection of that size submitted by an anonymized name such as “ckennedy342” is highly unusual.

Ingestion Review

As noted in the Ingestion Evaluation section, distributors commonly evaluate both the applicant (the publisher) as well as their library before making sound clips available for sale to customers. Depending on the website technology, this may be automated with forms. However, ckennedy342’s submission is unusually large, and would typically prompt a distributor to investigate more.

Distributor Evaluation

The current exhibits do not detail the exchange between Pond5 and ckennedy342. It would be helpful to know if email exchanges between the two exist, as well as a copy of the signed distribution agreement between them. So, at present we do not know the process of publisher evaluation. Please note it is typical for distributors to evaluate publishers, especially with such a large library submission. It would be highly unusual not to evaluate a publisher with such a notable submission.

Content Evaluation

However, the exhibits do provide a copy of the library that was submitted. It is common for a distributor to evaluate the sound clips submitted by publishers. The audio may be evaluated for salability and content, and copyright violation.

A basic content review of ckennedy342’s uploads identifies striking irregularities. The quality of the audio varies considerably. Many sounds are mono, and sound thin and old. Others (such as Quiet Planet material) are higher quality, as described above. Such a drastic difference is highly unusual, and would prompt investigation.

The submission contains atypical content in general. The sound library includes **production music**. It is unusual that music and sound effects are submitted by a single publisher. Usually sound library publishers focus on either one discipline, either music or sound effects. Furthermore, the variety of sound effects themselves is so diverse that it would prompt inquiry. It includes musical instrument hits, race cars, wild animals, nature ambiences, and production elements. This was noted above when referencing the original spreadsheet. It is further supported by examining the file names themselves, which vary more widely. Such diversity is highly unusual. Such an unusual submission would raise suspicions from anyone with a reasonable knowledge of sound libraries, and prompt further investigation.

Examining the submission in detail reveals egregious errors. Performing a keyword search using rare sound clip file names reveals duplicate sound effects on a variety of websites. Some clips appear on YouTube under a variety of publisher names. Examples from XLSX sheet “WAP 1”:

- The sound clip from line 139 is identical to a clip appearing on YouTube.
- The sound clip from line 153 is identical to a clip appearing on AudioSparx.
- The sound clip from line 1239 is identical to a clip appearing on amazon.com
- The sound clip from line 2076 is identical to a clip from the Valentino sound library.

There are others. I performed a basic, half hour search on rare sound effect names. Both the text and the audio matched perfectly. While it is possible for publishers to sell their sites on other websites, it is unusual that they would use a completely different publisher name. So, it is highly suspicious to find matching sound clips on a variety of sound library websites with different publisher names. Most importantly, a large portion of the submission is identical to sound clips from the Valentino sound library, an established proprietary sound collection.

This evidence, gathered from a simple half hour investigation, is alone is enough to halt ingestion and reject the submission.

Furthermore, citing the PDF of the email exchange between Mr. Townsend and Mr. Khan, it is revealed the library was submitted three times. The first two times Pond5 rejected the submission, indicating that they are capable of curatorial review during ingestion, but failed to do so the third time. In addition, the submissions had the same PayPal payment address, which would further flag it as a suspicious submission.

Conclusion

I have ingested a half million sound files from hundreds of publishers. I would have questions about this submission immediately.

The spreadsheet provides enough data to raise suspicions. The naming prefix indicates an established publisher. The naming style differs between sound clips, suggesting that they were sourced from distinct sound publishers. The naming style also adopts an usual naming format uncommon to wider sound libraries.

Additionally, the content of the submission is suspicious. The wide variety of ocean recordings is unusual. Furthermore, it is uncommon to see such varied categories of sound fx in one submission.

Finally, and most significantly, the quantity of the submission is atypical. A submission of 10,000 sound effects is highly unusual. Few sound private sound libraries of this size exist. A submission of this size from an anonymous user is highly suspect. The quantity of the submission suggests it is produced by an experienced field recordist.

The audio content itself raises further suspicions. Listening to the Quiet Planet sounds indicates that they are binaural sound files. The submission of binaural recordings requires sophisticated, rare equipment used by only a handful of sound library publishers. It is highly uncommon to encounter a sound library with high-quality field recordings produced in the binaural format. Knowing a sound library is produced in the binaural format is a way of identifying its publisher.

Finally, on a more general level, the sounds are prepared or mastered at a professional quality uncommon amongst most sound effect libraries. This indicates a high level of skill that would prompt further investigation. This contrasts with other files in the submission, which are low-quality mono files, a difference that is additionally unusual.

In short, if such a library were to exist, the wider community would likely know about it. I would have heard of it myself, and anyone in the business of selling sound libraries would have a reasonable knowledge of such a sound library as well. Also, this library would likely appear in other places before being uploaded to Pond5, for example mentioned on forums, or submitted on more prominent websites other than Pond5, first.

To conclude, given these facts, I would determine the sounds were suspect after even a brief review of a spreadsheet or the audio files involved.

I believe that Pond5 made a mistake when ingesting the submissions from ckennedy. They were neglectful by not examining the submission in more detail.

A 10,000-clip submission is extremely suspect. Anyone with reasonable exposure to sound libraries should have investigated both the publisher and the sound files themselves more fully. Failing to perform a Web search match on file names is an especially notable failure during ingestion, as even a basic half hour search I performed found multiple copyright violations.

Furthermore, it is highly unusual to have the same library submitted three times, and in my opinion negligent not to notice the third submission to be sold to customers. Since Pond5 rejected the submission twice, it is extremely negligent not to reject it a third time. The library should have been flagged based on its quantity, content, and duplicate content found via basic Web searches.

As a professional sound librarian, if I were to see this submission, I would halt the ingestion immediately. If an automated process had placed the files online automatically, I would remove them or “hide” them from view as a way to cease further distribution, and investigate immediately.

Under no circumstances would I dismiss these observations. Distributing someone else’s content would put my client or employer at great risk. Any time a similar situation appeared while employed for a website or consulting with one, the situation was taken quite seriously by all parties.